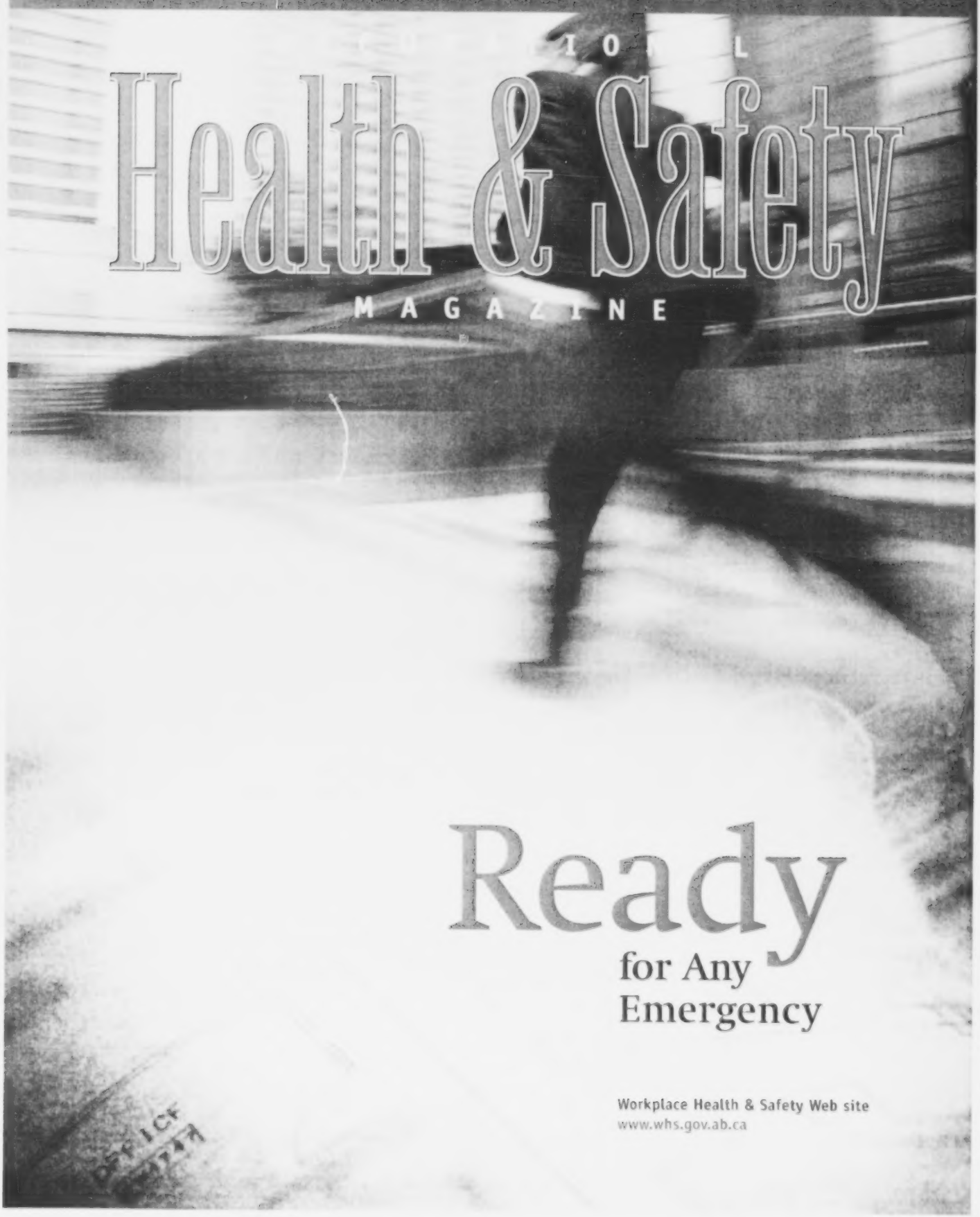
VOLUME 25 • NUMBER 1 • JANUARY 2002

Health & Safety

MAGAZINE



Ready for Any Emergency

Workplace Health & Safety Web site
www.whs.gov.ab.ca

Blind Faith Won't Save You

by Laird Burton

Emergency preparedness planning should be a constant in any organization. If the plans are deemed important only when a major disaster strikes, such as the events of September 11, then they are unlikely to be effective. The emergency plan is more than a document, and should include a process of constantly scanning the environment for both risks and opportunities. Opportunities? Yes, a sound plan will give the organization a chance to recover from a disaster by demonstrating that it cares for its clients and employees. The City of New York and its mayor, Rudolph Giuliani, provide a profound example of this. When the attack against the World Trade Center occurred, the city was ready with a plan to meet the needs of the people affected, as well as to deal with the collateral damage inflicted. Too often, plans deal only with physical and financial recovery and don't take people into account. Despite losing the emergency operations centre for New York located in the World Trade Center, Mayor Giuliani and his administration were ready, first and foremost, to help people.

What issues should your plan address?

- **Planning**. Does your organization have management commitment to provide an emergency preparedness plan?
- **Vulnerability**. This is where you must work in conjunction with everybody else who has an impact on your "risk profile." You may be vulnerable to hazards posed by other companies in your multi-tenant building. Are they going to lock doors as part of their plan and stop access to part of the building? Do they have chemicals or other hazardous substances stored on site? Who will act or respond in the event of an emergency, and what level of training will those in responsible positions need? Anyone designated to function in such a capacity needs training. Who is appointed to maintain close contact with local emergency services, so that when called upon emergency services can respond effectively to known hazards at your facility?
- **Apathy**. Often the responsibility for emergency planning is given to an individual, although teams are much more effective in getting buy-in. Teams that include both management and employees achieve the best results. The planning process should resolve areas of potential conflict and reduce confusion over roles. The last thing an organization needs is arguments about who is responsible for what on the day of the disaster!
- **Sharing**. If you don't share, how will you know how your organization interacts with others? Sharing may give your team an opportunity to streamline its response and prevent each tenant from coming up with individual, uncoordinated plans.
- **Communication**. The number one criticism of all plans is that people are not familiar with the plan. People need to know the procedures so they are not reading them for the first time by flashlight in an office filling with smoke.
- **Practice**. The best way to communicate the plan is to try it out. This should not be viewed as a waste of time, as the exercise will show both the strengths and weaknesses in an organization. No real emergency would be over in an hour, and recovery from even a minor event may take days. So, are you ready? Do you have the bench strength to rotate team members or are you going to keep the same staff on for a marathon session?
- **Testing**. A learning check should take place after every exercise or plan activation to ensure the plan is updated. A good way for your organization to test its strength is to research a disaster or emergency in another jurisdiction and evaluate how well your plan would stand up under the same circumstances.
- **Quality control**. To ensure the plan is valid for a rapidly changing environment, emergency preparedness should be part of all business operations; it is not an add-on.

Since September 11, there has been substantial pressure to prepare and review emergency plans. Just remember they must be your plans for your people. Even the best, off-the-shelf plan is useless if your employees are not prepared for their roles, which include preparing their own family disaster plans so that, in an emergency situation, they are not distracted by worrying about their kids.

Emergency preparedness, both at work and at home, should be everybody's concern and part of every business cycle, not just a knee-jerk reaction to events. To quote Polybius, who wrote in 150 BC: "We must plan for the predictable and prepare for the unpredictable."

Laird Burton is the manager and fire chief of Strathcona County Emergency Services and has extensive experience teaching and writing about fire-related issues.

For more on preparing for an emergency, see page 12.

OCCUPATIONAL
Health & Safety
MAGAZINE

A Workplace Health and Safety
Alberta Human Resources and Employment publication

Managing Editor
Wally Baer

Editor
Juliet Kershaw

Occupational Health & Safety Magazine is published three times a year, in January, May and September. Magazine policy is guided by the *Occupational Health & Safety Magazine* Advisory Board consisting of industry and government representatives.

***Occupational Health & Safety Magazine* Advisory Board members:**

Wally Baer	Alberta Human Resources and Employment Workplace Health and Safety
Chris Chodan	Alberta Human Resources and Employment Communications
Bob Cunningham	Canadian Petroleum Safety Council
Dianne Paulson	Alberta Construction Safety Association
Lloyd Harman	Alberta Forest Products Association
Juliet Kershaw	Paprika Communications
Alain Langlais	Alberta Human Resources and Employment Workplace Health and Safety
Rose Ann McGinty	Alberta Municipal Health and Safety Association
Bob Nebo	Workers' Compensation Board – Alberta
Ron Townsend	Plumbers and Pipefitters Union
Corinne Pohlmann	Canadian Federation of Independent Business

On occasion, this publication refers to the *Occupational Health and Safety Act* and its regulations. In the event of a discrepancy between statements in this publication and the *Act* or regulations, the *Act* or regulations take precedence. Opinions expressed in this publication are those of the writers and do not necessarily reflect the views or policy of Alberta Human Resources and Employment or the Government of Alberta.

Subscriptions to *Occupational Health & Safety Magazine* are available without charge by calling (780) 415-9948. When notifying us by mail of a change of address, send an address label or subscription number with the new address.

Letters and email to the editor We welcome response to articles or information published in this magazine, as well as suggestions for future articles. We will print letters to the editor as space permits. The editor reserves the right to edit letters.

Copyright is held by the Government of Alberta. Reproduction of articles in their entirety is permitted. A reproduced article must include: the author's name; title of the article; full name of the magazine; the date, volume and issue number of the magazine. The magazine is available as a PDF file on the Internet at: **www.gov.ab.ca/hre/whs/publications/ohsmag.htm.** For permission to reproduce excerpts of any article, please contact the magazine's administration office at (780) 415-0587 or whs@gov.ab.ca.

How to contact us

Occupational Health & Safety Magazine
Workplace Health and Safety
Alberta Human Resources and Employment
9th Floor, 10808 – 99 Avenue
Edmonton, Alberta T5K 0G5

(780) 415-9948
(780) 427-5698
(For toll-free connection within Alberta dial 310-0000 before the number)
whs@gov.ab.ca

How to get more occupational health and safety information

Look up the Workplace Health and Safety Web site at www.whs.gov.ab.ca
OR Contact the Workplace Health and Safety Call Centre at 1-866-415-8690

Design and layout by McRobbie Design Group Inc.
Printed by Quebecor World Edmonton
Publication Mail Agreement No. 1528572
ISSN 0705-6052 © 2002

contents

Perspective

2 **Blind Faith Won't Save You**
by Laird Burton

Stories

6 **Add it Up: Accounting for Uninsured Accident Costs**
by Debbie Culbertson

10 **Keeping New Immigrants Safe at Work**
by Norma Ramage

12 **Ready for Any Emergency**
by Bill Corbett

19 **Forklifts: Deceptive and Dangerous**
by Allan Sheppard

Profile

16 **No Pain, All Gain: A Workplace Partnership Promotes Early Intervention Strategies**
by Anita Jenkins

Ergotips

22 **Lost-Time Injury Claims: Looking at the Numbers**
by Ray Cislo

Much more

4 News & Notes
5 Workplace Health & Safety (WHS)
8 Partnerships
9 Real World Solutions
18 Web Watcher
23 Workplace Fatalities

You're 18 and working? What of it?

You're on the edge. The X-TREME edge – extremely likely to be injured on the job. If you're between 15 and 24 years of age, you're one-third more likely to be injured on the job than anyone over 25.

If you're not prepared, your work site can be dangerous. No matter what you do, hazards exist. Whether you're a store clerk, landscape gardener, truck driver, painter, server or cook, there's always an element of risk.

Risks at work are like risks at play. You learn how to manage them whether you're on a snowboard or a ladder. *X-Treme Safety* explains the rules of the safety game and the equipment you need.

Where's the danger?

What can you do about it? Get hold of *X-Treme Safety* to find out.

Do you want a safe, healthy and fair workplace? Here are 10 questions you need to ask your boss. Learn strategies to win over your boss and co-workers – and to stay safe.

Want to know your chances of getting injured? Take the hazard IQ test. Then get the gear. Get the know-how. Get real. Get a copy of *X-Treme Safety*.

X-Treme Safety **is free. For your copy, call Workplace Health and Safety at 1-866-415-8690 or visit** www.whs.gov.ab.ca.

Survey results support **workplace safety**

From Ergoweb (www.ergoweb.com)

Findings of The Executive Survey of Workplace Safety by the Liberty Mutual Group, the leading provider of workers' compensation insurance in the U.S., show that business executives realize the benefits of workplace safety go beyond the company's bottom line.

- 95% of business executives reported that workplace safety has a positive impact on a company's financial performance.
- 86% feel workplace safety provides a return on investment.
- 70% think protecting employees is a leading benefit of workplace safety.

Survey results also revealed that the executives' perception of the relationship between direct and indirect costs associated with injury and illness is in line with data from the Occupational Safety and Health Administration (OSHA). OSHA indicates that indirect costs associated with a workplace injury can be as much as three to five times the direct costs.

As well, findings revealed that businesses may be focusing attention on causes of workplace injuries at the expense of others, and may need to adjust their workplace safety priorities. Those surveyed saw repetitive motion as the most important cause of workplace injuries. The executives noted they would focus workplace safety resources on addressing repetitive motion injuries. However, according to Liberty Mutual data, the leading cause of workplace injuries in the U.S. is overexertion, and the direct costs of repetitive motion accounted for only one-quarter of the direct costs associated with overexertion.

What has been missed in the executives' assessment is that many overexertion injuries and repetitive motion injuries are caused by the same risk factors. The most specific cause of either injury is using significant force in an awkward posture.

Survey results are based on interviews with 200 executives responsible for workers' compensation and other commercial insurance at 125 mid-size firms and 75 large companies, representing a range of geographic locations and industries. Survey results are available at ***www.libertymutual.com.***

CPPI shares **working alone guide**

To help service station operators, bulk plant agents and company employees who drive alone comply with the working-alone legislation, the Western Division of the Canadian Petroleum Products Institute (CPPI) has published a guideline for member employers. The guide outlines provincial safety regulations for the four western provinces, employer obligations and ways to meet regulatory requirements.

The CPPI, which represents the downstream oil industry, is pleased to make the guide available to non-CPPI member companies, such as other gasoline marketers, convenience store owners, etc. You will find the guide under Publications at www.cppi.ca.

Prevention is the Cure

NAOSH Week is May 5–11, 2002

What is NAOSH Week?

Each year Canada, the United States and Mexico shine the spotlight on health and safety for one special week. Preparations start months in advance. Businesses large and small, safety associations, institutions, governments and individuals focus the attention of employers, workers and the general public on the importance of preventing injury and illness in the workplace.

Who makes NAOSH Week happen?

Volunteers! Everyone who comes out to help recognizes the need to raise awareness of the benefits of investing in occupational health and safety. Their efforts go toward reducing workplace injuries and illness by encouraging new health and safety activities.

What can you do?

If you are a company, support your NAOSH committee and host a Family Safety Fair, launch a recognition program for safe-work suggestions, or give health and safety presentations to staff and their families.

If you are a worker, follow and promote safe-work practices and report unsafe situations that could result in injury or illness. Work with your company's health and safety committee and the local NAOSH committee.

How can you contact your local NAOSH committee?

In Alberta, there are 11 local committees and one provincial committee. Find the contact you need through the NAOSH Web site, www.naosh.ca.

Get involved this year and be a part of the solution!

Revised Asbestos Manual Available

Workplace Health and Safety (WHS) has completed revisions to the *Alberta Asbestos Abatement Manual*. The manual can be purchased from the Alberta Queen's Printer (qp@gov.ab.ca or 780-427-4952 — toll-free by dialing 310-0000 first) or viewed on the WHS Web site, www.whs.gov.ab.ca.

Chemical Safety Information — Free to the World

www.inchem.org

Quick and easy access to an extensive body of chemical safety information is available through the Internet at www.inchem.org.

The INCHEM service offers thousands of searchable full-text documents from international bodies on chemical risks and the sound management of chemicals. The documents are current and peer-reviewed. Originally developed in 1997, INCHEM was made available online and without charge in June 2001 through the combined efforts of the International Programme on Chemical Safety and the Canadian Centre for Occupational Health and Safety.

Contact WHS anytime...

For occupational health and safety information and assistance, phone the Call Centre 1-866-415-8690 or go to the WHS Web site www.whs.gov.ab.ca.

Whether you want to check a safe-work procedure, compliment a WHS officer or register a complaint, this is your opportunity.

NOW, New Content on the WHS Web site

Fatality information

- a year-to-date workplace incident fatality summary (updated monthly)
- all fatality reports from 1997 to 2000
- year-to-date occupational disease fatality summary (updated monthly)
- year-to-date motor vehicle accident fatality summary

Prosecutions information

- department prosecution and compliance policies
- a summary of all prosecutions since 1996
- full-text judgements, decisions and appeals in cases where fines are $100,000 or more
- Occupational Health and Safety Council appeals information, appeals process description, questionnaire, review process and rules of procedures

OHS agencies and links

- Job Safety Skills Society
- Association of Workers' Compensation Boards of Canada

Library Services

The Alberta Government Library – Labour Building Site (formerly the Alberta Human Resources and Employment Library) houses a large selection of occupational health and safety information materials. It is linked electronically to 25 university, college, health and government libraries across Alberta. You can search the library catalogue over the Web through gate.library.ualberta.ca. The library location code is AB HR & Employment.

To borrow materials, please contact your local library and make your requests through the inter-library loan process. Or you can visit the library in person at:

3rd Floor, 10808 – 99 Avenue
Edmonton, Alberta T5K 0G5
(780) 427-8533 or toll-free, 310-0000
(780) 422-0084

How to order Workplace Health and Safety publications

Workplace Health and Safety produces publications on a variety of occupational health and safety subjects. Publications include manuals, brochures, booklets, bulletins and posters. They are regularly reviewed and updated.

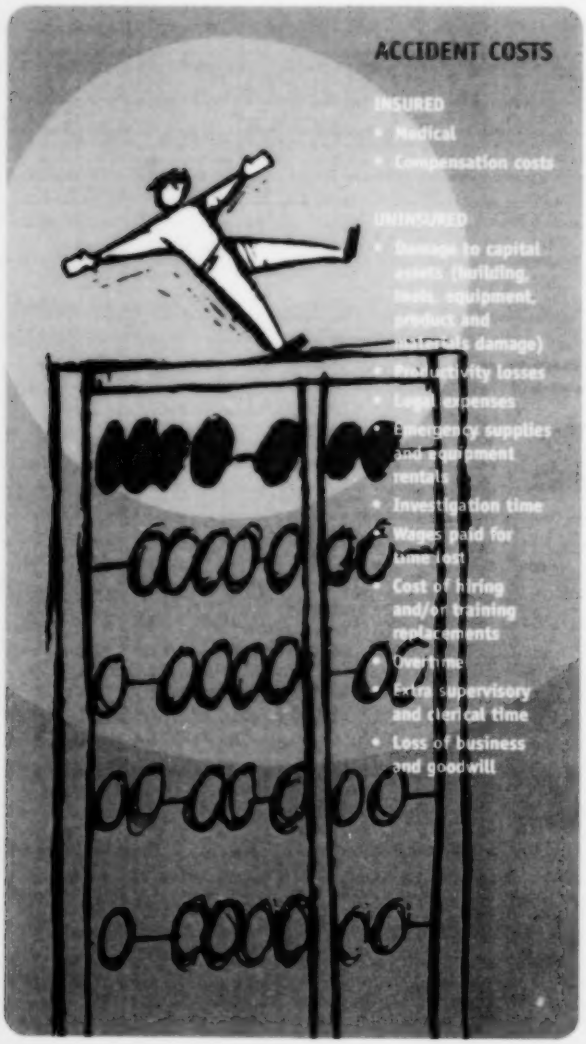
Over 400 publications are available from Workplace Health and Safety. Find them on the WHS Web site, **www.whs.gov.ab.ca** or order them through the WHS Call Centre, **1-866-415-8690**.

WHS is a division of Alberta Human Resources and Employment and falls under the jurisdiction of Minister Clint Dunford.

Add it Up

Accounting for Uninsured Accident Costs

by Debbie Culbertson



Is there a line item in your accounting program for "accident costs?" Many employers think this is unnecessary, believing that this expense is covered within their workers' compensation and other insurance premiums. Some may also consider workplace accidents to be unexpected expenses that are too difficult to calculate and not worth tracking.

Safety researchers challenge these assumptions. In 1999, one in every 30 workers in Alberta lost time because of work-related injuries or illnesses. In addition to the personal and social costs indicated by such statistics, there is a huge financial cost to the employers of injured workers.

According to Keith Knoblick in a report for the Workers' Compensation Board – Alberta, workplace accidents inevitably result in hefty insured and uninsured costs to the employers. These costs are like an iceberg. The tip, the part that most employers see, is the insured cost. But lurking underneath are massive hidden costs that few recognize until it is too late. These are uninsured costs. "Uninsured costs are those which are not covered by insurance plans – such as lost time for injured workers, co-workers, and supervisors; property losses and other losses," writes Knoblick. Employers may be surprised to learn that uninsured costs can amount to as much as 50 times the insured cost of an accident. And while insured costs are only the "tip of the iceberg," they are also likely to increase as workers' compensation premiums soar.

Employers who don't track the costs of workplace accidents likely can't or won't be able to reduce them. Without knowing the real cost of an accident, they may not recognize the cost benefits of investing money in health and safety programs. They may also have a more difficult time addressing the source of both potential and real problems. One way employers can keep track is to incorporate accident costs into departmental budgets. This also keeps managers responsible for the high and low levels of such costs.

Most economic analysts agree that we are heading into an economic downturn. With profit margins declining, few companies can afford bloated insurance premiums and uninsured accident costs. A good accounting system and a well-organized and applied health and safety program can help you avoid running your economic ship into the accident-cost iceberg.

Debbie Culbertson is a writer and editor living in Devon, Alberta.

In the September 2001 issue of Occupational Health & Safety Magazine, we described the many types of uninsured accident costs. This issue, we are giving you a data collection sheet to help you account for them.

Resources

WEB LINKS

www.osha-slc.gov/SLTC/safetyhealth_ecat/mod1_costs.htm
OSHA's (Occupational Safety and Health Administration, U.S. Dept. of Labor) cost of accident calculations from their Safety and Health Management System.

www.billsims.com/cost.htm
Bill Sim's calculation.

IN THE ALBERTA GOVERNMENT LIBRARY – LABOUR BUILDING SITE

Video
Hidden Costs of Accidents, 10 min.
Safety Care Inc. presents accidents in the hospitality industry, and the importance of safety programs. (VC 0182)

Calculating the Uninsured Costs of an Accident

The following is a data collection sheet for calculating the cost of a workplace accident. Feel free to adapt it, as needed, to reflect your own situation.

Cost of wages paid for working-time lost by workers who were not injured. $_____
Take the time lost by workers who were observing or helping at the accident site and/or who lost time because their equipment was damaged. Multiply this time by their hourly wages. For instance, if six workers who each earn $20/hr. spent 10 minutes helping at the scene, the cost to the company is $20. (6 workers x 10 min. = 60 min./1 hr.; 1 hr. x $20 (hourly wage) = $20.00.)

The net cost to repair, replace, or reorganize material or equipment damaged in an accident. $_____

Cost of wages paid for working time lost by injured workers, over and above workers' compensation payments. $_____
This includes the amount of time lost on the day of the accident, days off for which the worker was paid, time lost when the worker gets medical attention after the worker returns to work, and any additional time lost by the worker for which he or she was paid.

Extra costs due to overtime work as a result of an accident. $_____
If workers put in overtime to make up for time lost due to the accident, how much more did this cost than if the work had been done during regular hours?

Cost of wages paid to supervisors whose time is required for activities related to the injury. $_____

Lower productivity (1): Wage cost arising from the decreased output of the injured worker after his/her return to work, if the worker is kept at the same salary as previously. $_____
This can be estimated by subtracting the percentage of normal output from 100 and multiplying the result by the worker's average wage rate. The result is multiplied by the number of hours per day and the number of days on light work. For instance, consider an injured worker who is earning $10/hr. and working at 25% lower productivity for two eight-hour days. The cost of this lower productivity will be $40 ($10 x .25 = $2.50, $2.50 x 16 hours = $40).

Lower productivity (2): Cost of a new worker's learning period, including the cost of training by his/her supervisor. $_____
The productivity of new workers, like that of injured workers, is likely to be lower than that of fellow workers doing the same job. Therefore, use the same method of calculation as you did for (1), above. Add to this the cost of training by a supervisor. This latter figure is calculated by multiplying the hourly wages of the supervisor by the number of hours he or she spends supervising the new worker.

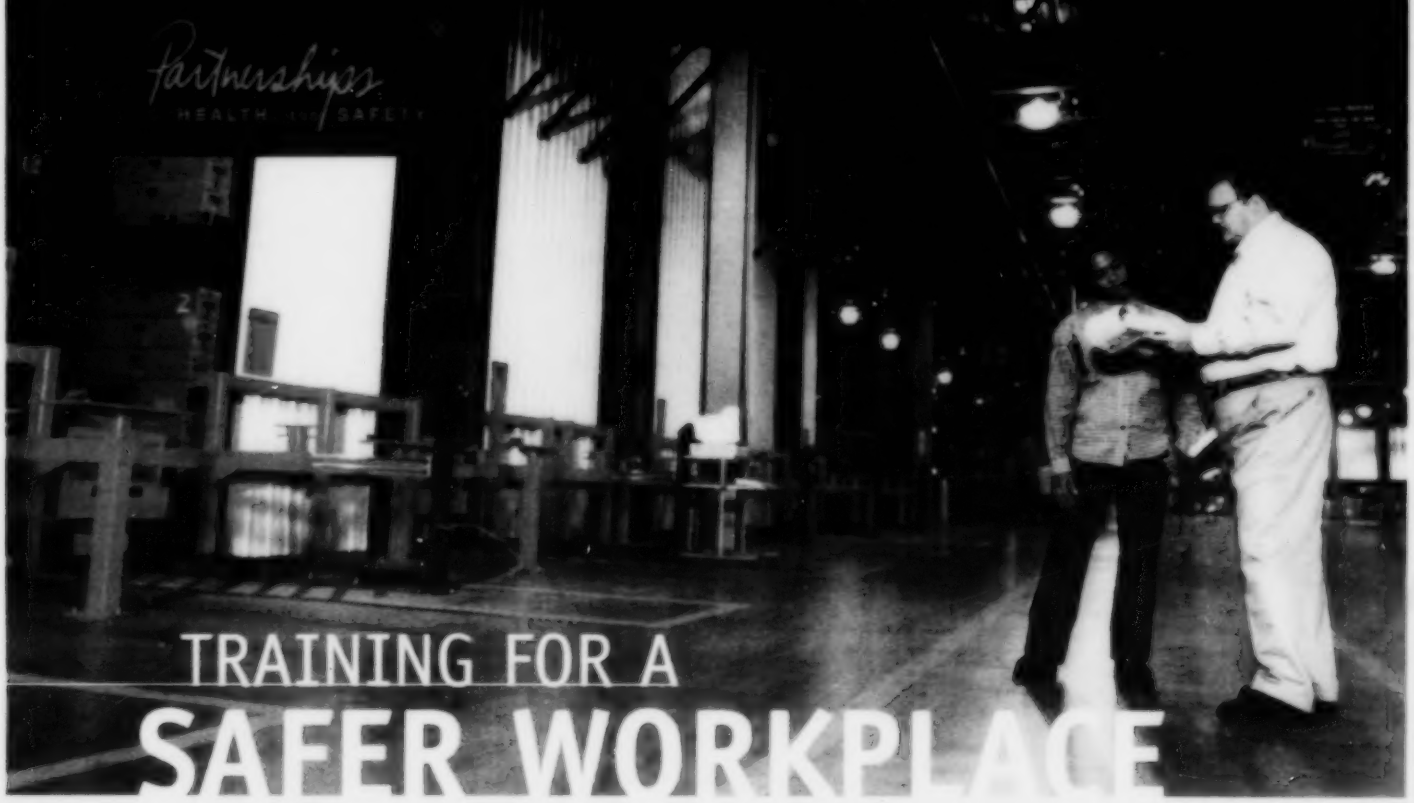
Uninsured medical cost borne by the company. $_____

Cost of time spent by higher supervision and clerical workers on investigations or in the processing of compensation application forms. $_____

Miscellaneous unusual costs. $_____

Total: $_____

The above data collection sheet is based on information in *Safety Management, 3rd Edition*, by John V. Grimaldi and Rollin H. Simonds. Publisher: Richard D. Irwin Inc., Homewood, Illinois, 1975, and "An Accounting Model for Measuring Uninsured Accident Costs," prepared by Keith Knoblick for the Workers' Compensation Board of Alberta, 1994.



TRAINING FOR A SAFER WORKPLACE

The Health and Safety Management System: Part 3
Training and Inspections

by Debbie Culbertson

Recently, a television advertisement for a national drugstore chain featured a construction worker named "Bob." In the humorous commercial, Bob is admired for his rugged good looks and the way he saves money by making purchases at the drugstore. However, Bob isn't very good at being safe on the job. The commercial ends with him running headfirst into a steel beam.

While Bob may be a fictional character, he exhibits just one of the many kinds of unsafe behaviours that are targeted in safety training. According to Richard English, the former safety training coordinator for the Petroleum Industry Training Service (PITS), workers' behaviour on the job and work-site conditions are just two of the many important elements to consider when establishing a good safety training program.

PITS is the certifying partner for six petroleum industry associations. The non-profit organization provides safety and employment training for the 5,400 large and small companies that belong to these associations. PITS offers a two-day program to help supervisors develop company safety programs. "PITS gives member companies a number of tools to set up these programs," says English. "These include inspections, hazard assessment, accident investigation, communications, management involvement, rules, work procedures and training requirements."

According to English, a good safety program is one in which a worker is not only trained to do his or her job well, but to do that job with the highest possible degree of safety. For instance, welders must not only be taught the latest in welding techniques, but also to wear goggles, safety shields, protective clothing and air filtration equipment at all times. A delivery worker must be taught the right way to move heavy objects without risk of injury.

Safety procedures will vary according to the type of work being done. For this reason, employers need to develop safety "checklists" for those items on the job that are related to regulatory requirements and/or industry practices. "There may be a checklist for certain tools," says English. "Workers might look for frayed cords, whether or not there are guards on a grinder, or if tools are bent or have stress fractures." A company might need several safety checklists, depending on the procedures and equipment used.

What is Partnerships?

Partnerships in Health and Safety is a province-wide injury prevention program sponsored cooperatively by government, labour and industry. It is based on the concept that when employers and workers build effective health and safety management systems, the human and financial costs of workplace injuries and illnesses can be reduced. Partnerships is for employers of any size.

How do you benefit:

The Partnerships program offers employers:

- **Tools to implement a health and safety management system**
- **Guidance in applying for a certificate of recognition (COR)**
- **The potential for premium refunds from the Workers' Compensation Board.**

For more information about certificates of recognition or the Partnerships program, call the Partnerships hotline at: (780) 427-8842 or toll-free 310-0000.

Procedures should also be established for addressing hazards, and workers must be trained to follow them. Workers should be taught how to "engineer out" or remove hazards. For instance, a safe chemical can be substituted for a hazardous one. If the problem cannot be engineered out, an "administrative procedure" can be put into place. This might include putting barriers or signs around an unsafe area. When a hazard cannot be eliminated, personal protective equipment can be worn. For instance, many power plants are very noisy. Earplugs must be worn and the amount of time spent in a noisy area, limited. Workers must be trained to put some or all of these procedures into place at any one time.

Supervisors must ensure that workers comply with safety checklists. Checking whether or not safe procedures are followed is also an important part of any safety program. On a drilling floor, the position of a worker's body and his or her hands, and use of personal protective equipment are vitally important links in the chain of safety.

An effective safety program requires regular audits. "Inspections ensure proper maintenance and accountability," says English. "What gets measured, gets done." The checklists created for a company's safety program become the ruler by which its effectiveness is measured during an inspection.

Inspections are valuable for other reasons as well. If workers aren't aware of safety guidelines, then they don't know what standard they are expected to achieve on the job. If workers aren't aware of the proper procedures to follow in operating heavy equipment safely, they may put themselves and others at risk.

One of the biggest benefits of establishing a good safety training and inspection program is independence, according to English. "Small companies in the oil business have often had to depend on the prime contractor to provide safety programs. By helping them establish their own safety procedures, we enable the companies to become more independent."

Resources

WEB LINKS

www.osha-slc.gov/SLTC/safetyhealth_ecat/comp4.htm
Training in OSHA's (Occupational Safety and Health Administration, U.S. Dept. of Labor) Safety and Health Management System.

www.gov.ab.ca/hre/whs/partners/
Alberta Partnerships in Health and Safety Program.

www.nsc.org/pro" "/osh/14elem.cfm
National Safety Council list of health and safety program elements.

www.aaalac.org/connection_1sp1998.htm
Education is key in a health and safety program (Association for Assessment and Accreditation of Laboratory Animal Care).

IN THE ALBERTA GOVERNMENT LIBRARY

Books

Safety Training Basics: A Handbook for Safety Training Program Development
by James Roughton
Rockville, MD: Government Institutes, 2000.
(T55.2 R65 2000)

Developing Safety Training Programs: Preventing Accidents and Improving Worker Performance Through Quality
by Joseph A. Saccaro
New York: Van Nostrand Reinhold, 1994
(T55 S13 1994)

Real World Solutions

In the real world, identifying and resolving ergonomic issues requires awareness, knowledge and a willingness to try new things. Real World Solutions is a regular column that suggests simple, inexpensive ways to improve employee health through adjustments to the workplace.

If you've found a solution that you would like to share with our readers, please send it to **ray.cislo@gov.ab.ca**. We will publish those that apply to a broad range of situations.

Loading by hand

The Problem

While loading bags, the worker has to continually reach across the pallet and over other bags. The lifting, twisting, bending and lowering movements in awkward positions can cause lower back, shoulder and arm injuries.

The Solution

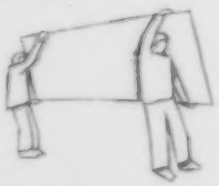
Use a scissors pallet lift with a 360-degree rotating turntable.

Benefits

- Rotating the table eliminates walking around the pallet and the need to twist and bend when reaching across bags. Adjusting pallet height with the lift eliminates unnecessary lifting.
- Eliminating unnecessary materials-handling activities reduces the likelihood of injury.

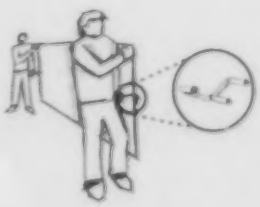
Carrying awkward loads

The Problem



Carrying large sheets of material such as drywall panels can be awkward, stressing the hands, arms, shoulders and lower back.

The Solution



Attach a small, lightweight handle to the sheets.

Benefits

- Awkward body positions are eliminated, the load is more stable, and the handle can be placed at different heights to compensate for shorter and taller workers.
- The handle offers a good, solid grip.

Keeping New Immigrants Safe at Work

by Norma Ramage

Working in a meat-packing or manufacturing plant or on a cleaning crew poses occupational health and safety problems even without the language and cultural challenges faced by new immigrants. In Alberta, more and more immigrants are entering the workplace. Keeping them healthy and safe is a growing concern for employers.

Just what are the problems, and, more importantly, how can employers solve them?

The problems are as varied as the people involved, but Tan Lee, a counsellor with the Immigrant Youth Outreach Project of the Calgary Catholic Immigration Society, believes they fall into two basic categories: basic misunderstandings and language problems; and deeper cultural differences.

As an example of a simple misunderstanding, he cites the case of a meat-packing plant that was experiencing safety problems, and sometimes injuries, at its cutting tables. The problem? The tables were designed for taller Caucasian men, but the workers were much shorter Asian women. The solution? Lower the tables. Sometimes, says Lee, it's simply a matter of asking the employees what would help.

Immigrants' lack of English skills is another obvious problem, but solutions are available to employers. Many rely on in-house resources — fellow employees who speak the same language but are more fluent in English. Often, the new worker is assigned to work with others from the same language group. However, Lee advises against this because "the only way to learn English is to speak English." Instead, he recommends a mixed employee work group made up of some people from the same language group, some from other language groups and some English-as-a-first-language speakers.

Make sure they understand

Steel Craft Doors of Edmonton also uses in-house resources, says assistant safety supervisor, Brian Chomyc. However, to ensure that immigrant employees have understood the company's training and orientation programs, all employees are asked to verify their understanding. "We don't accept a nod. We ask them to explain things back to us."

Other companies use formal language training programs, many of which are subsidized by either the provincial or federal governments. Smed International, a Calgary furniture manufacturer, pays the $70 cost for eight weeks of English as a Second Language (ESL) training at Bow Valley College. Elizabeth Walton, environmental health and safety advisor at Smed, says that with new Canadians it may be necessary to go that extra step to ensure they know about the program and to encourage them to enrol. She does this by personally "talking it up" on the plant floor because "there is sometimes a shyness. They're just like anybody else in not wanting people to know they can't read."

Walton says that Smed also pre-screens employees and tests them to ensure they have a basic understanding of the company's safety procedures. "We have them fill out the questionnaire right there because it could be completed at home by someone with better English."

The key to providing a safe workplace for immigrant employees is to build up a relationship of trust and respect.

Bring ESL trainers to the workplace

Cargill Foods of High River also pays for ESL courses for its employees, but Phil Gossen, the meat-packer's employee welfare coordinator, says it's hard for employees to find the time to attend the courses. "They work so hard, and after a long day, from six in the morning until four or five at night, it's a lot to ask them to drive all the way into Calgary to take an English class." That's why Cargill is now working with the Adult Literacy Foundation of High River, a charitable

society partially funded by Alberta Learning, which sends volunteer ESL instructors to the plant to conduct classes at shift changes.

Cargill also uses its own 16 in-house trainers who speak a variety of languages, plus outside translators to translate all of its safety materials into eight of the major languages spoken at the plant.

Cultural misunderstandings can be more difficult to solve. Employees may come from a culture where it is considered a loss of face to ask for help. Or they may be afraid they will lose their jobs if they voice a safety concern.

In other cases, says Lee, immigrant workers simply don't realize that Canada has a much lower tolerance for risk and injury than the cultures they come from. "In China it may be acceptable for me to carry 50 or 60 kilograms on my shoulder. I have to have it explained to me that I can't do that here because I could injure myself."

For Lee, the key to providing a safe workplace for immigrant employees is to build up a relationship of trust and respect. And that, he says, means understanding the employees' cultures. That's why he advised Cargill's Gossen to get involved with cultural groups. Today, Gossen is in regular touch with ethnic community leaders, and Cargill sponsors events within the various communities. The idea, says Lee, "is to show employees that the company is interested and involved in their lives outside the job."

Lee has one major piece of advice for employers: be patient. "Remember that the immigrant is coping with a new job, a new language and a different culture. Be patient and think long term."

For employers looking for help in creating a safe work environment for immigrant employees, the bad news is that there is no single source of help. The good news is that with patience and persistence, you can find the resources that are out there.

Edmonton's Mennonite Centre for Newcomers recently started the Skills for Work program that offers entry-level training for immigrants. Currently, the program offers only retail and warehousing courses, but personal services, production-line work, clerical, manufacturing and systems administration courses will be added in upcoming months.

Program coordinator Randie Carlsen includes safety training in each program (in areas such as basic safety, protective equipment, back injury prevention, hazard identification) and an introduction to Alberta's occupational health and safety regulations.

Although the program is currently offered to newcomers seeking jobs, Carlsen says he is open to the idea of working with companies to offer the courses to their current employees. However, participants must have basic English language skills equivalent to a grade four or five level.

To find out what other help is available, Carole Simpson of the Calgary Mennonite Centre for Newcomers recommends that interested employers may want to start by contacting one of the front-line immigrant services agencies. (See sidebar, Where to Get Help) These agencies can then refer them to cultural groups, cultural sensitivity training consultants and organizations that provide ESL, translation and other services.

Norma Ramage is a freelance writer and communications consultant living in Calgary.

WEB LINKS

www.cal.org/ncle/DIGESTS/PLANNINGQA.HTM
Planning, implementing and evaluating workplace ESL programs.

www.cal.org/Archive/projects/Mellon.htm
A project in adult immigrant education.

www.ed.gov/offices/OVAE/work10.html
National Workplace Literacy Program (U.S.), a bibliography.

are.berkeley.edu/APMP/pubs/lmd/html/summer_92/superviacr.html
Supervising across language barriers.

www.sireview.com/articles/multiculturalstaffing.html
Article: "Multicultural Staffing Makes Sense."

www.cal.org/ncle/digests/ROSENBLU.HTM
Article: "Union-Sponsored Workplace ESL Instruction."

www.nald.ca/index.htm
Canada's National Adult Literacy Database.

Where to Get Help

Front-line Service Agencies

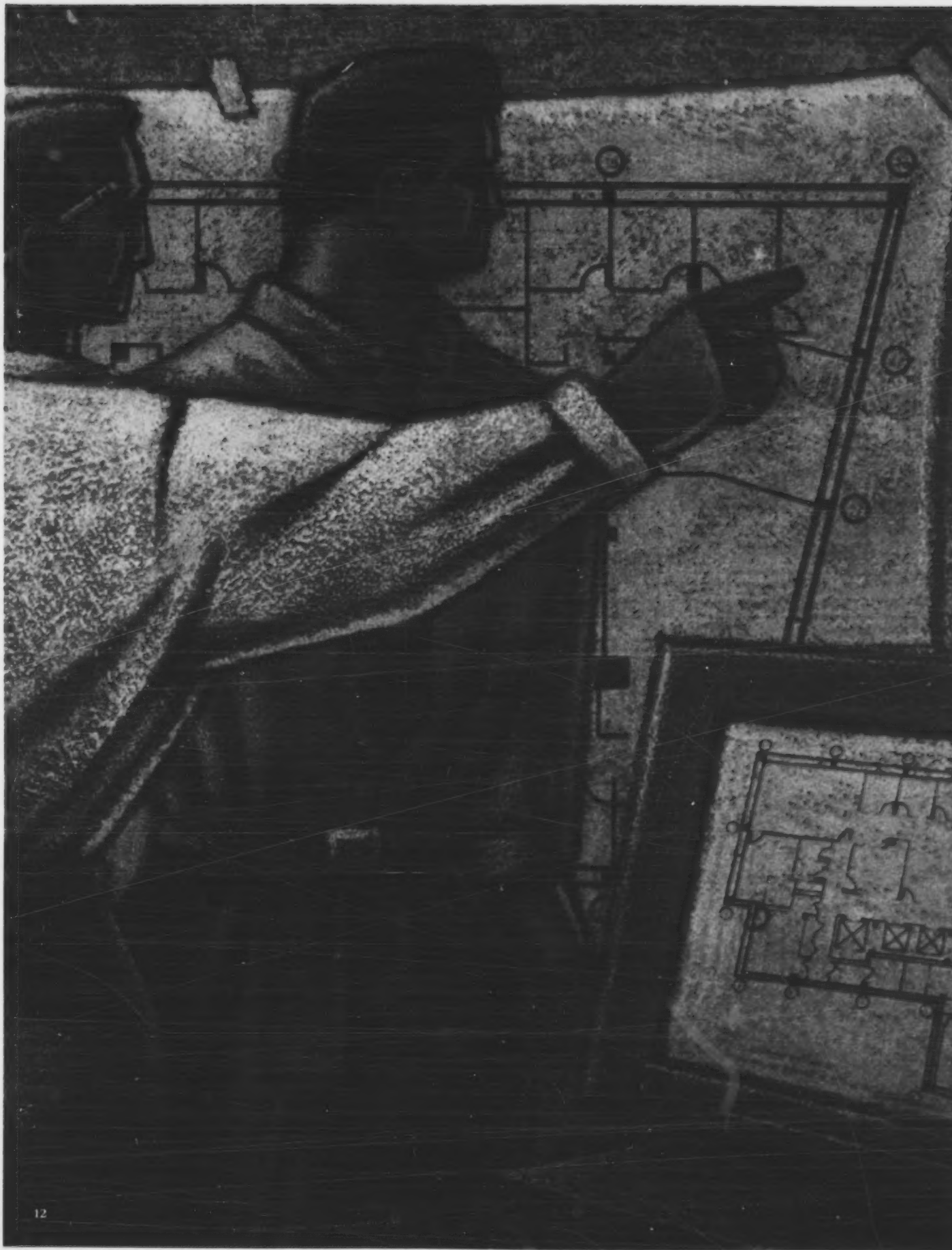
- Calgary Catholic Immigration Society (403) 262-2006
- Calgary Mennonite Centre for Newcomers (403) 569-0409
- Calgary Immigrant Aid Society (403) 265-1120
- Calgary Immigrant Women's Society (403) 263-4414
- Edmonton Catholic Social Services (780) 424-3543
- Edmonton Immigrant Services Association (translation and interpretation services) (780) 474-4885
- Edmonton Mennonite Centre for Newcomers (Skills for Work Program) (780) 424-7709

Other Organizations

- Changing Together (primarily for female immigrants) (780) 421-0175
- Language Assessment Referral and Counselling Centre (780) 424-3545
- Literacy Help Line (adult literacy programs) 1-800-767-3231
- Literacy for Life Foundation (adult ESL programs in the MD of Foothills only) (403) 652-5090
- Alberta Association for Adult Literacy (403) 297-4994

Nine ways to give them a break

- First and foremost, BE PATIENT.
- Look beyond language misunderstandings for risk of injury sources. For example, consider ergonomic conditions.
- Ask employees to verify their understanding of health and safety procedures. Have them explain things back.
- Promote ESL programs at the workplace. These programs are often government subsidized.
- Pre-screen (at the workplace) potential employees for their health and safety knowledge.
- Provide ESL training on site.
- Provide health and safety training on site in the languages spoken by employees.
- In work groups, mix employees from the same language group, from other language groups and English-as-a-first-language speakers.
- Get involved with the cultural groups represented at your workplace to help you understand and address cultural differences effectively.



Ready for Any Emergency

by Bill Corbett

September 11 was a wake-up call to North Americans that their safety and security could no longer be taken for granted. It also reminded business that emergencies can happen at any time. Companies large and small must be prepared to respond promptly and properly if an emergency arises – whether it's a bomb threat, tornado, train derailment or something more common and more preventable such as a fire or a chemical spill.

In a tough economy, where resources and people are already stretched to the limit, it might be tempting to put emergency planning on a back burner. "One of the challenges is there's no immediate payoff for the time and money you invest in emergency response planning. And if you go 20 years without an emergency, you might wonder about continuing to invest in that planning," says Paul Riopel, president of Edmonton-based Emergency Response Management Consultants. "But all it takes is one emergency for it to pay off, so you've got to be a bit of a visionary." Put another way, would you forgo insurance on your business, house or car because you don't expect a fire or accident?

So, which companies need to be well prepared for an emergency? Obviously, large industrial plants, hospitals, and producers of sour gas and petrochemicals should be ready for the unexpected. But so, too, should a small company that supplies swimming pool chemicals, a two-person railway siding in a remote area of Alberta or even an office full of clerical workers.

Make a plan

"There's no question that every company and every facility should have a process for dealing with emergencies. Usually, there's some sort of plan that is in place," says Riopel. A plan provides firm and clear guidance during an emergency; without one, things can quickly spiral out of hand. The preparation that goes into producing that plan can also unearth unexpected job-site hazards as well as deficiencies in equipment and in staff's ability to tackle an emergency. Further, an emergency response plan promotes safety awareness and demonstrates the company's commitment to worker safety.

"The simpler the plan, the better," says Riopel. "The days when you judged a plan by its weight are long gone. Books that look like the emergency planning version of *War and Peace* usually don't get looked at or get used in an emergency. You want to focus on the essentials." The essentials of an emergency response plan include a list of potential hazards, an action plan for handling various emergency scenarios and a list of resources, inside and outside the company, for handling an emergency.

Identify hazards

When developing a plan, the first step is to identify potential hazards to a business, its employees and the nearby public. If you don't know what your hazards are, you can't respond properly if one sparks an emergency. Hazards include obvious on-site risks like fire and the various chemicals stored or handled at a facility. Plants, warehouses and other facilities with significant amounts of hazardous chemicals should share this information with outside agencies that might be called upon to help in an emergency. A number of Calgary firefighters were recently rushed to hospital when they inadvertently applied water to a warehouse fire because they were unaware of what chemicals were stored there. Taking an inventory of hazards can also reveal poor handling or storage practices, which can be remedied to greatly decrease the likelihood of an emergency.

Not all hazards are on site. A train derailment could wreak havoc on nearby businesses. As a precautionary measure, it's worth contacting the railway to find out what types of chemicals it typically transports. Ruptured gas lines, acts of nature such as tornados or floods and acts of terror are other potential hazards. Because it's impossible to predict what might provoke an emergency, many emergency response plans adopt an all-hazards approach that can easily be adjusted to accommodate, say, an increased concern for security against terrorism.

Once you've identified the potential risks, you can start planning the appropriate action to take in an emergency. A company drilling a sour gas well, for example, would need to develop detailed plans for containing any blowout and for evacuating nearby residents. Indeed, strict emergency planning procedures for any sour gas facility are required by the Alberta

Energy and Utilities Board, which is drawing up new guidelines to help oil and gas operators prepare and maintain their emergency response plans.

Because the risk of death from violence is statistically much higher than from fire in today's North American schools, the Edmonton Public School Board's revised emergency response plans include steps to be taken in the lockdown of a school. Generally, the board favours a response-based approach to emergencies. A standard response, easily modified to suit any emergency, is straightforward and flexible.

Identify emergency procedures

Regardless of the type of risk identified or the approach taken, any response plan should have a clear list of steps to follow in an emergency. This includes procedures for:

- setting up a command centre
- evacuating employees and the affected public along properly identified routes to safe destinations
- taking action, by trained staff, to contain, for example, a spill, turn off gas lines or shut down part or all of a plant
- notifying outside agencies such as fire and police departments that will be brought in to help
- communicating with government agencies, the public and the media throughout an emergency. Damage to a company's reputation can be worse than physical damage if such communications are not handled properly.

The plan should also address what needs to be done once the emergency is over. "You have to have a business resumption plan, especially if you lose your facility or factory or just the ability to carry out your business," says Ralph Homes, director of industrial programs with the Disaster Services Branch of Alberta Municipal Affairs. "After the Edmonton tornado, some businesses were flattened. In such cases, you have to have plans for how you're going to maintain service to your customers, take care of your employees, get things back to normal and, above all, ensure the survival of your company."

Train leaders

Another critical element of any emergency response planning is designating and training the employees who will directly respond to an emergency. For mid-sized and larger companies, this starts with an emergency response coordinator and a back-up coordinator, who will direct all company activities during an emergency. Below them in the chain of command are individuals or teams thoroughly trained in such things as: first aid; use of fire extinguishers and self-contained breathing apparatus; chemical spill control and shutdown procedures; and the proper handling of hazardous materials.

It's also important to know what people and equipment you *don't* have to battle an emergency. "Just because you're small doesn't mean you can't have a big problem," says Riopel. "You might have a distribution terminal with only a couple of employees, but if it contains 15,000 cubic metres of oil, ethane or butane and there's a fire or spill, you're going to create a big problem. You have to know where you can get help."

Smaller companies can hire firms that specialize in handling various emergency situations such as containing and cleaning up spills. In an emergency, almost any size of company must be

prepared to work with outside agencies such as fire and police departments, paramedics, blowout experts, provincial disaster service personnel and regulatory agencies.

An emergency response plan should list the names and titles of all these people, internal and external, as well as their emergency response roles and phone, cellular phone and pager numbers. Because people frequently leave organizations or change jobs, emergency personnel lists need to be updated regularly, as do response plans as a whole. "Most emergency response plans should be updated annually," says Bill Wolff, a senior operations engineer with Calgary-based Bissett Resource Consultants, which helps energy companies prepare for emergencies. "You have to keep personnel lists and company operations current so that the information is at your fingertips when you need it."

While a basic emergency response plan can be prepared internally, a growing number of companies, finding they lack the time and expertise, are hiring outside experts. But a consultant will still need considerable input from company staff to ensure the resulting plan meets the company's specific needs.

More importantly, the preparation of an emergency response plan is of little value if it just gathers dust. Once it is completed, all staff must be trained to know what is in the plan and what to do in an emergency. For example, employees should be aware of the various types of potential emergencies and familiar with emergency protection equipment, evacuation plans, alarm systems and reporting procedures. Additional training is needed when new equipment, materials or processes are introduced or when operating procedures have been changed.

Practice drills should be held at random intervals, at least annually, and include outside fire and police authorities, when possible. Many larger companies, especially those that operate refineries, chemical plants or sour gas facilities, occasionally undertake full-blown simulations to prepare themselves for a crisis and to pinpoint weaknesses in their preparations.

Bill Corbett is a Calgary writer.

The Plan That Saved Lives on September 11

Before September 11, 3,700 employees of the financial services giant Morgan Stanley occupied offices in two buildings of the World Trade Center (WTC). Moments after the first plane struck the north tower that morning, according to an article in *The Washington Post*, "Morgan Stanley employees began evacuating the 44th through 74th floors" of the south tower. The company had developed an excellent emergency response plan and had thoroughly trained and drilled its staff in evacuation procedures. Fewer than six of its 2,700 employees working in the south tower were lost in the attack.

The *Post* article explains that after the 1993 bombing of the WTC, Rick Rescorla, vice president for corporate security at Morgan Stanley Dean Witter & Co., developed the emergency plan that was in place on September 11. "He insisted on marching his troops through evacuation drills every few months. The investment bankers and brokers would gripe, but Rescorla would respond with his Seven Ps: Proper prior planning and preparation prevents poor performance. He wanted to develop an automatic flight response at Morgan Stanley, to burn it into the company's DNA."

When the first attack was reported to Rescorla, "he immediately ordered an evacuation of all 2,700 employees in Building Two, as well as 1,000 Morgan Stanley workers in Building Five, across the plaza. They walked down two stairways, two abreast, just as they had practiced . . . By the time the second hijacked jet rammed into the south tower at 9:07 a.m., many Morgan Stanley employees were already out of the building and just about all of them were on their way out."

Tragically, Rick Rescorla was one of the few Morgan Stanley employees who died that day. When the south tower collapsed, he was inside, still helping people make their way out.

Resources

WEB LINKS

www.ccohs.ca/otherhsinfo/alerts/osha-19.txt
U.S. Department of Labor fact sheet, "Responding to Workplace Emergencies"

www.ccohs.ca/oshanswers/hsprograms/planning.html
Canadian Centre for Occupational Health and Safety site on emergency planning.

www.ucalgary.ca/~ucsafety/labinspc/samperps.htm
University of Calgary sample emergency response plans for dealing with fire and injury, chemical spills and biohazardous materials.

www.eub.gov.ab.ca/
Alberta Energy and Utilities Board interim directive on corporate-level emergency response plans.

www.osha-slc.gov/SLTC/smallbusiness/sec10.html
OSHA (Occupational Safety and Health Administration, U.S. Dept. of Labor) emergency preparedness training for small businesses.

www.gov.mb.ca/labour/safety/publicat/IERPGuid/ierpguid.html
Industrial Emergency Response Planning Guide (1996) from the Manitoba Industrial Accidents Council.

www.epc-pcc.gc.ca/home/index_e.html
Canada's Office of Critical Infrastructure Protection and Emergency Preparedness.

IN THE ALBERTA GOVERNMENT LIBRARY

Videos

Emergency Preparedness/Incident Prevention/Crisis, 14 min.
How to announce an emergency, conduct an evacuation and handle the media. Explains the purpose and function of a crisis management team and demonstrates a practical drill. (FVC 250)

Municipal Emergency Planning: The Process, 40 min.
How a community can put together an emergency measures plan to minimize the effects of a disaster. (FVC 108)

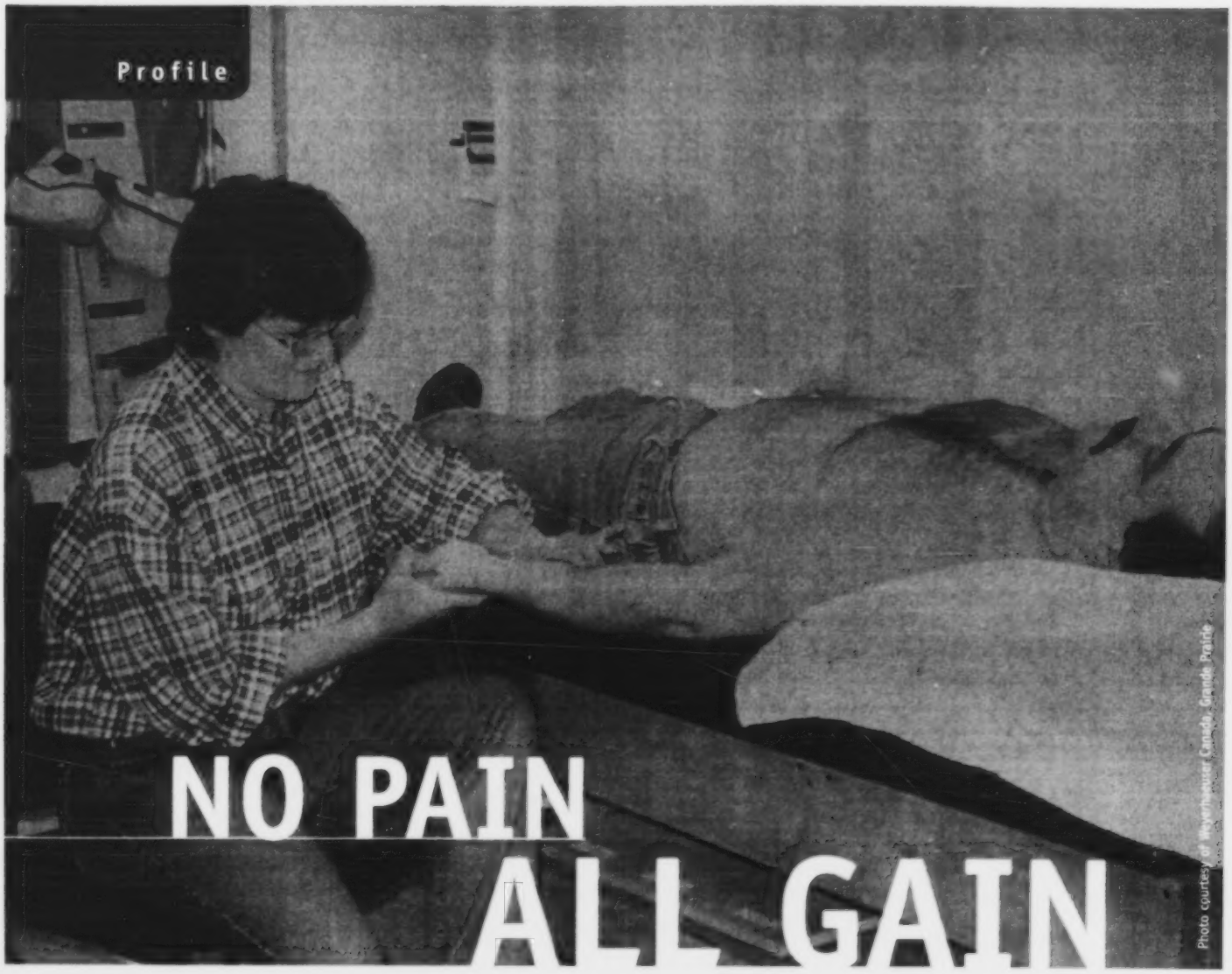


Photo courtesy of Weyerhaeuser Canada, Grande Prairie

NO PAIN ALL GAIN

A workplace partnership promotes early intervention strategies

by Anita Jenkins

A technician in the recovery department of the Weyerhaeuser Canada's Grande Prairie sawmill operation, Rod Vanstone sorts, trims and stacks boards. Last May he began to develop physical problems. His right wrist suddenly became numb, and he had difficulty gripping the boards. Vanstone immediately told his team supervisor, who sent him for a medical assessment. A physiotherapist taught him exercises and techniques to reduce overusing his wrist. For some time, he avoided using two machines that required him to grab and straighten boards. He could still perform the other tasks required in the sorting and stacking areas. Since then, Vanstone has been fine. "I think it was because we dealt with the problem right away," he says of his injury.

Vanstone's case is not unique. This is the sort of thing that has been happening routinely at the sawmill for about three years now. The company has been paying serious

attention to its 750 workers' minor aches and pains. Its Integrated Rehabilitative Program (IRP) is providing workers with treatment early on, long before a disabling condition develops. The Workers' Compensation Board – Alberta (WCB) defines a disabling condition as one that a qualified health care professional has determined requires restorative treatment and/or modified work. When a worker is experiencing pain or discomfort but his or her ability to function on the job is not compromised, the condition is considered non-disabling.

"Prevention has long been a basic tenet of the safety side of workplace interventions, so why not do the same on the health side?"

The early intervention strategies Weyerhaeuser uses include on-site contract physiotherapy and massage therapy, modified work, education, workplace assessments, over-the-counter medication and physician referrals. The IRP is an innovative approach, even for this large forestry operation, which has a policy of taking care of all employee health problems, regardless of whether they are the result of activities on or off the job.

It all started in 1998 when the occupational health department began including on-site physiotherapy in its disability management strategy. "We were encouraged by early successes," says Linda Perkins, health and safety leader at the Grande Prairie site. "So we wondered if there wasn't something more we could do with this."

The upshot was a one-year pilot project established in 1999 - 2000 in partnership with the WCB and the Alberta Forest Products Association. The project had three goals: to manage the effects of progressive injuries; to help employees regain their ability to function and to contribute to the workplace; and to eliminate or reduce pain and discomfort.

Occupational health nurses at the Grande Prairie site regularly work with team leaders and employees to identify workers who are experiencing musculoskeletal symptoms or disorders — often by using a diagram of the human body known as the Ergoperson. Employees are asked to "mark an X where it hurts."

Since the contracted physiotherapist has a keen interest in understanding how injuries develop as a result of doing specific tasks, she goes out to the work site to observe. She might ride with a crane operator, for example, or watch the lumber graders at work. In this way, she is able to suggest modifications to the equipment or advise the workers about their posture or methods of carrying out a specific task.

New employees are especially at risk, Perkins notes. After they've been on the job for six to eight weeks, they are seen by the physiotherapist, who identifies early problems or areas of dysfunction that can be addressed before they become injuries. Proper posture and body mechanics are emphasized at this time as well.

A key factor in the success of the program is the high degree of trust between the company and its staff. "Team leaders and supervisors often facilitate the first intervention," Perkins says. The workers' response has been extremely gratifying. A survey of participants was 92 per cent positive in August 2000, and 91 per cent positive in July 2001.

"We have been very open with the Workers' Compensation Board," Perkins says. "We told them about the steps we were taking that were different. We wanted the WCB to feel confident that we were reporting injuries as needed, since something that seems minor can become major five years from now."

In the Weyerhaeuser project, says Ian Hooper, the account manager at the WCB, "participation in on-site physiotherapy is completely optional. If a worker doesn't feel it is right for him, he is encouraged to go to his doctor."

The WCB supports this initiative and is promoting the concept to other employers. No other companies have signed up yet, but discussions are ongoing and many employers are showing an interest. (See Getting Started sidebar.)

Prevention has long been a basic tenet of the safety side of workplace interventions, so why not do the same on the health side? It's standard practice to monitor all at-risk behaviour and conditions related to safety on the work site, along with near misses and property damage, with a view to preventing serious injury or even a fatality in the future. Similar processes designed to maintain and improve employees' health make perfect sense as well.

Anita Jenkins is a freelance writer and editor living in Edmonton.

Getting Started

For success with an early intervention health program, a company should:

- have the full commitment and support of management
- hold a certificate of recognition (COR) from a certifying partner and Workplace Health and Safety. (A basic health and safety program is an essential foundation to introducing this intervention program effectively.)
- have documented and functioning disability management and work processes
- have workers who support modified work processes
- make the process completely open to WCB review.

Web Watcher

Your Electronic Bookshelf

by Bob Christie

As promised in the September 2001 issue of *Occupational Health & Safety Magazine*, I'm providing more addresses of general sources of occupational health and safety information for your electronic bookshelf. Addresses are organized into several categories. Not all will be of interest to you, so bookmark only the ones that are most relevant to you.

Industry Web sites with health and safety interests

Alberta Boilers Safety Association: **www.albertaboilers.com/**

Alberta Construction Safety Association: **www.acsa-safety.org/**

Alberta Hotel Safety Association: **www.albertahotelsafety.com/**

Alberta Municipal Health & Safety Association: **www.amhsa.net/**

Alberta Safety Council: **www.safetycouncil.ab.ca/**

Manufacturers' Health & Safety Association (MHSA) (formerly the Metal Fabricators Health and Safety Association): **www.mhsa.ab.ca/**

Mines and Aggregates Safety and Health Association: **www.masha.on.ca/links.htm**

Alberta associations — general industry sites with some safety information

Alberta Association of Registered Nurses: **www.nurses.ab.ca/issues/healthy.html**
Health issues for nurses.

Alberta Electrical League: **www.elecleague.ab.ca/aelmain.htm**
Basic electricity course.

Alberta Fire Chiefs Association
See *Seminars, General Safety Links.*

Alberta Food Processors Association: **www.afpa.com/main.shtml**
Choose *Enhance Environment & Workplace Safety.*

Alberta Forest Products Association: **www.abforestprod.org/**
Choose *ForestCare, Codes of Practice.*

Alberta Home Builders Association: **www.ahba.ca/**
Click on *Alberta Residential Construction Safety Guide.*

Alberta Motor Transport Association (an amalgamation of the Alberta Trucking Association and Alberta Trucking Industry Safety Association): **www.albertatrucking.com/**
Search for safety.

Alberta Occupational Health Nurses Association: **www.aohna.ab.ca/**

Alberta Roadbuilders and Heavy Construction Association: **www.arhca.ab.ca/** Find an order form for *Roadbuilders Safety CD* under *Publications and Products*, and a safety seminar under *What's New.*

Association of Professional Engineers, Geologists and Geophysicists of Alberta: **www.apegga.com/publications/search_pegg.html**
Search for safety.

Construction Labour Relations: **www.clra.org/**
Choose *Courses* and *Library.*

Construction Owners Association of Alberta: **www.coaa.ab.ca/safety/safetyhome.htm**
Safety committee and a library of reference pages.

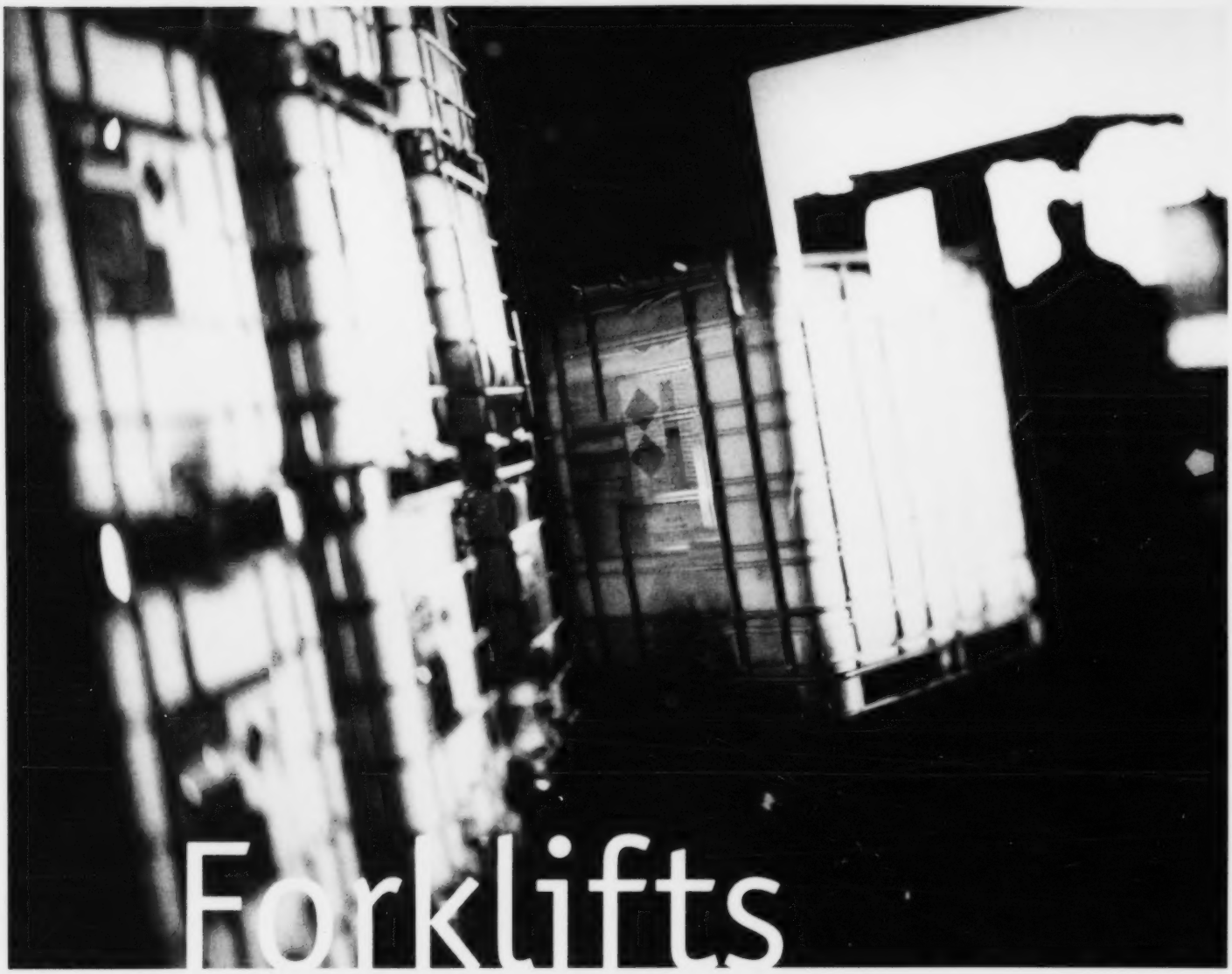
Electrical Contractors Association of Alberta: **www.ecaa.ab.ca/**
The PEC (Professional Electrical Contractor) program requires a safety course.

Environmental Services Association of Alberta: **www.esaa.org/**
Choose *News* or *Events* for courses and a waste management guide.

Petroleum Tank Management Association of Alberta: **www.ptmaa.ab.ca/**
Choose *General Info* for information about fire code compliance for storage tanks.

In the next issue, I'll provide both commercial and non-commercial sites with some interesting content. Please understand that this list is NOT exhaustive. It should get you started, but be prepared to add many more sites that meet your particular needs.

Bob Christie is a partner at Christie Communications Ltd., a multimedia development company in Edmonton. Bob also supplies most of the Web link resources for the articles in this magazine.



Forklifts
deceptive and dangerous

Forklifts (lift trucks) may look like bumper cars on steroids and scoot around warehouse floors as if they were "souped up" to boot. But don't be fooled by appearances. Lift trucks – commonly called "forklifts" – are serious pieces of heavy-duty equipment. They can injure, maim or kill the unwary or unprepared in the blink of an eye.

In Alberta during the five years from 1996 to 2000, forklift incidents led to 29,094 lost days that cost $4,537,626, an average of 5,819 days and $907,525 per year (see chart, following page).

"High costs indicate there were serious or disabling injuries," says Gene Wolkowycki, commenting on the numbers for 2000. Wolkowycki is an occupational health and safety officer who covers northern Alberta out of the Edmonton Workplace Health and Safety office.

by Allan Sheppard

Wolkowycki's résumé includes a year working on a lift truck, so he understands the safety issues from experience:

- For manoeuvrability, most lift trucks have short wheelbases and rear-wheel steering. Their handling and steering response is exaggerated compared to other vehicles.
- Large, rough-terrain lift trucks are articulated. They turn by "bending" in the middle, which produces another unique set of handling and steering responses.
- Lift trucks have heavy weights over the rear wheels to prevent them tipping forward under load. These counterweights affect the balance and handling of lift trucks. They pose significant hazards on slopes and ramps, and during maintenance.
- Loads often block forward vision. For this reason, and to prevent loads flying off the forks in a sudden stop, lift trucks normally carry large loads in reverse. This affects handling and can lead to musculoskeletal injuries.
- The mast that raises and lowers the load-bearing forks is unique to lift trucks. It presents serious maintenance challenges to mechanics who do not follow safety procedures. Several workers servicing lift trucks have died because the mast and forks were not properly blocked.

Beyond such equipment-specific concerns, operators also deal with task-specific issues related to the nature of their loads and how they are to be handled and placed. The circumstances under which the work is done, and the terrain are also important. In addition, lift-truck operators face the full range of safety issues that apply to any vehicle: proper use of seat belts and safety equipment; avoiding collisions with other vehicles, structures and people; proper handling of fuel; preventive maintenance and safety procedures.

Many safety-conscious employers require their lift-truck operators to be certified and trained. Some, like the Weyerhaeuser Canada lumber and oriented strand board (OSB) plant at Drayton Valley, offer in-house programs. Others send their workers to outside trainers, such as the Alberta Safety Council.

"Every new hire who will work with forklifts takes our certification course," says Weyerhaeuser's loss control manager, Dan Haggerty. So does every contract employee involved in this activity. "Our course takes one day and includes six hours of theory and two hours of training and evaluation," says certified safety trainer Chris Mooney, himself an articulated lift-truck operator who started at Weyerhaeuser before the certification program was available. "We basically learned on the job," he recalls. "That's just not good enough any more."

Mooney emphasizes that the training program only "certifies an individual to safely operate a lift truck." Dedicated operators undergo a 30-day period of task-specific training with a supervisor. Lift-truck operators are subject to a policy that authorizes Weyerhaeuser employees to challenge any operator's behaviour and ask to see the operator's certification card. "We are all responsible and accountable for our own and each other's safety," says Haggerty.

The Alberta Safety Council (ASC) certifies lift-truck operators and trainers for large and small

Forklift dos and dont's

A partial list of common forklift operating safety concerns and procedures:

- Always wear a seat belt. A sign at the entrance of Weyerhaeuser's OSB warehouse says: "Unbuckled. Unsafe. Unemployed."
- Use personal protective equipment, including hearing protection, as required by the particular task and employer policy.
- No riders. There is only one seat and one seat belt per forklift. Hanging onto the side of the vehicle or riding on the load is foolish and potentially deadly.
- Identify and mark hazards such as ramps, scaffolding, power lines and columns.
- Clearly mark "Go" and "No Go" areas for equipment and pedestrians.
- Respect other workers: always know where co-workers, such as truckers and swampers, are working during loading and unloading, and do not put them at risk.
- When stacking or removing material, never allow anyone to work beside or behind a stack, rack or transport truck.
- Follow a safety checklist at the start of each shift and after any absence from the vehicle during a shift. Provide written checklists and require operators to log their activities.
- Report all incidents and all near misses.
- Refuse to operate an unsafe vehicle or perform unsafe work.

A partial list of common forklift maintenance safety concerns and procedures:

- Use certified mechanics only.
- Use only recommended tools and lifting equipment.
- Apply emergency brakes and block all wheels before starting to work.
- Understand how the mast operates. Always block the masts and forks before working on them.
- Do not try to jack up the rear end of the vehicle without removing the counterweight.
- Follow the manufacturer's manual when removing the counterweight and working on the mast.

Forklift accidents in Alberta, 1996 to 2000

Year	Days lost	Total cost	Cost per day
1996	5,426	$665,633	$123
1997	6,024	$817,633	$136
1998	5,696	$692,566	$122
1999	4,878	$380,891	$78
2000	7,070	$1,980,735	$280
Five-year averages	5,819	$907,525	$148

Source: Alberta Human Resources and Employment

employers. Operators must know how to operate a lift truck before enrolling. The one-day course focuses on common tasks and hazards: balancing loads and lift trucks under load, working on slopes and rough surfaces, working on ramps and loading docks, loading and unloading transport vehicles.

"We don't distinguish between big and small employers," says ASC supervisor of programs and training Laurie Leclair. "There are good and bad employers in both groups." The challenge for the ASC and other contract trainers is to make all lift-truck users aware of the need for and cost benefits of safety training and operator certification.

The fee for the ASC operator certification course is $135, which is less than the five-year average cost of a single day lost due to lift-truck related incidents in Alberta and less than half the average cost in 2000.

Allan Sheppard is a freelance writer and researcher. He lives in Edmonton.

Resources

WEB LINKS

www.gov.mb.ca/labour/safety/publicat/wshlegis/108cod.html
Government of Manitoba's code of practice for the safe operation of powered lift trucks.

www.osha-slc.gov/OshStd_data/1910_0178.html
OSHA (Occupational Safety and Health Administration, U.S. Dept. of Labor) regulations.

www.osha-slc.gov/SLTC/poweredindustrialtrucks/
OSHA forklift information.

www.free-training.com/osha/forklift/forkmenu.htm
OSHA, Forklift Operation and Safety Course (free online).

IN THE ALBERTA GOVERNMENT LIBRARY – LABOUR BUILDING

Books

Forklift Safety: A Practical Guide to Preventing Powered Industrial Truck Incidents and Injuries
by G. Swartz
Rockville, MD: Government Institutes, 1997.
(TL 296 S38 1997)

Forklift Safety: The Responsible Operator
Grand Rapids, Michigan: Summit Training Source Inc., 1995.
(TL 296 F67 1995)

Working Outside?

If you work outside in the winter cold, you're vulnerable to frostbite and hypothermia, which can lead to death. Don't forget to protect yourself! Drink plenty of fluids (avoid caffeine and alcohol), eat a balanced diet and watch for symptoms of frostbite and hypothermia.

Pay particular attention to what you're wearing. Dress in layers. Then you can shed or add clothing as needed. Wear clothing that will give you maximum warmth with minimum bulk. (You don't want to restrict your movement).

To stay warm, wear:

- **Head, face and neck gear** – a wind-resistant hood or balaclava made of wool or synthetics.
- **Long underwear** – wool, silk or synthetics such as polypropylene.
- **Two layers of socks** – a thin wool or synthetic inner sock under a thicker wool or synthetic outer sock.
- **Boots** – big enough to accommodate extra socks and a wool, felt or foam insole. Check the grip on the sole. Will it provide enough grip for the work you'll be doing?
- **A glove-mitt combination** – wear synthetic gloves under an insulated leather or synthetic glove or overmitt.
- **Parka** – for periods of inactivity. Look for high loft and insulation value. Use the hood.

See:
www.gov.ab.ca/hre/whs/publications/pdf/mg021.pdf
for *Working in the Cold*, a Safety Bulletin published by Workplace Health and Safety.

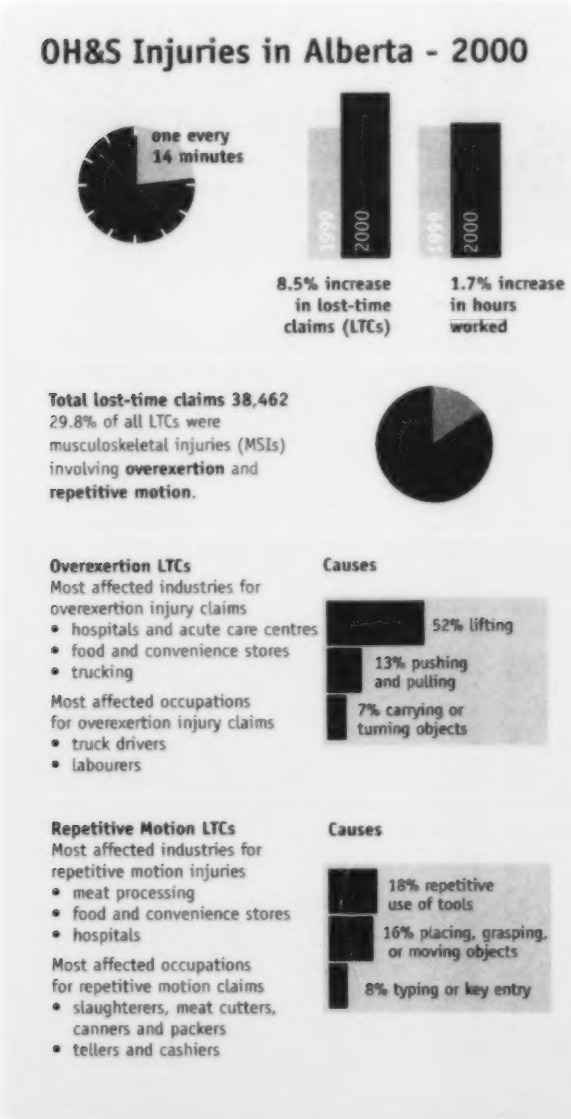
Lost-Time Injury Claims: Looking at the numbers

by Ray Cislo

If you were asked "What is the leading cause of lost-time injury claims in Alberta?" what would your answer be? Falls? Equipment rolling over? Power-line contacts? Think again.

In 2000, every 14 minutes of every day an injury or illness resulting in a lost-time claim occurred. (A lost-time claim is made when a worker misses more than the day of work when the injury or illness occurred.)

The total lost-time claims (LTCs) for 2000 were 38,462, an increase of 8.5 per cent from the previous year. This in a year when the total number of hours worked in the province increased by only 1.7 per cent.


OH&S Injuries in Alberta - 2000
one every 14 minutes
1999
2000
8.5% increase in lost-time claims (LTCs)
1999
2000
1.7% increase in hours worked
Total lost-time claims 38,462
29.8% of all LTCs were musculoskeletal injuries (MSIs) involving overexertion and repetitive motion.
Overexertion LTCs
Most affected industries for overexertion injury claims
• hospitals and acute care centres
• food and convenience stores
• trucking
Most affected occupations for overexertion injury claims
• truck drivers
• labourers
Causes
52% lifting
13% pushing and pulling
7% carrying or turning objects
Repetitive Motion LTCs
Most affected industries for repetitive motion injuries
• meat processing
• food and convenience stores
• hospitals
Most affected occupations for repetitive motion claims
• slaughterers, meat cutters, canners and packers
• tellers and cashiers
Causes
18% repetitive use of tools
16% placing, grasping, or moving objects
8% typing or key entry

The leading cause of all these claims? Musculoskeletal injuries (MSIs) involving overexertion and repetitive motion. MSIs accounted for almost 30 per cent of all claims, a number that doesn't take into account workers in pain who continued to work with an unreported injury.

Overexertion injuries include sprains, strains and tears resulting from excessive physical effort. They generally occur when workers are lifting, lowering, pushing, pulling, holding and carrying.

Repetitive motion injuries are the result of repeated overuse of a part of the body.

While it is commonly believed that computer users experience high levels of repetitive motion injury, the problem is rarely recognized among those workers who use their hands extensively in food processing, materials handling and the professional trades.

MSIs are almost always preventable!

MSIs are a serious source of injury and a largely unrecognized source of productivity and financial loss for employers.

To reduce overexertion injuries:

- evaluate work tasks to remove excessive reaching, bending, pushing, pulling, lifting, loading and unloading.
- use mechanical lifting and lowering aids such as hoists or adjustable lift tables to reduce the need to bend, reach and twist. Carts, trolleys, tables and other mechanical devices should be used to move and position heavy objects.
- design jobs to allow sufficient rest. Several short duration rest periods are better that one longer period.

To reduce repetitive motion injuries:

- vary the types and speed of motion by rotating workers to other tasks that don't involve similar movements.
- expand the worker's job to increase the number of different activities the worker does, reducing the amount of time spent at any one repetitive activity.
- use mechanical devices to assist the worker.

Need more surprising numbers? Take a look at the resources listed below.

Ray Cislo, P.Eng., B.Sc., (H.K.) is a safety engineering specialist at Workplace Health and Safety.

Resources

WEB LINKS

www.gov.ab.ca/hre/whs/publications/pdf/oid2000.pdf
Occupational Injuries and Diseases in Alberta: 2000 Summary Lost-Time Claims and Claim Rates

www.gov.ab.ca/hre/whs/publications/pdf/erg017.pdf
Musculoskeletal Injuries Part 1 - Alberta Injury Statistics and Costs Safety Bulletin ERG017

www.libertymutual.com/corporate/workplace/LM_index1_30.pdf
Liberty Mutual, a U.S. insurance company, has released its Workplace Safety Index. The index identifies leading causes and the direct cost of workplace accidents.

July 2001 - September 2001

Occupational Health & Safety Magazine **publishes Workplace Fatalities to remind readers of the importance of workplace health and safety. The information is not a final investigation report. In many cases investigations are continuing. Final investigation reports are filed at the Alberta *Government Library — Labour Building* Site and can be reviewed there or on the Workplace Health and Safety Web site at www.whs.gov.ab.ca under Fatalities.**

An occupational fatality refers to the death of a worker caused by a work-related incident or exposure.

To protect personal privacy, the fatality descriptions do not include the names of the deceased.

Workplace incident fatalities

Most workplace incident fatalities that fall under provincial jurisdiction are investigated by Workplace Health and Safety. In general, highway traffic, farm, disease or heart attack fatalities are not investigated.

The following fatalities have been or are being investigated.

A 49-year-old truck driver was loading liquid condensate (a hydrocarbon liquid) into a tractor-trailer storage tank at a hydrocarbon tank storage facility. An undetermined failure in the loading system caused liquid condensate to spray into the air. The plume of condensate exploded and broke into flame, which engulfed the truck and truck driver. The truck driver died from his injuries.

Two workers, a 26-year old woman and a 25-year old man, died while helping to unload pipe from a semi-trailer. They were standing beside the trailer in the equipment storage yard of a pipeline project when the wooden blocks supporting the load suddenly sheared off. The pipe fell onto the workers.

A 28-year-old warehouse employee was using a forklift to remove 200-litre drums of soap and cleaning fluids from a bank of shelves. While he was moving material from a shelf 3 metres high, the shelf above fell. It appears that the drums stored on the higher shelf hit the man and knocked him to the ground. He hit his head on the concrete floor. There were no witnesses to the incident.

A 52-year-old supplier of pressure-washing equipment fell when leaving a cooling tower at a generating plant. He fell either from a catwalk or a fixed ladder. He was not wearing fall protection.

A 43-year-old residential framer *was seriously injured when he* fell 10 metres from the roof of a new house under construction. He died later from his injuries.

A 61-year-old worker at a pre-cast concrete manufacturer was operating a machine that splits and stacks concrete blocks used for retaining walls. In reaching to clear some fallen blocks off the roller bed in front of him, he activated the lever that controlled the vertical movement of the splitter machine (a hydraulic clamp). The clamp lowered suddenly and crushed the worker's body and head onto the roller bed. The man had one month's work experience.

A 21-year-old roughneck engaged in light to moderate work at a sweet-well production site died from heatstroke. The temperature was 28 degrees Celsius. It was the worker's second day on the job.

Occupational disease fatalities

Disease fatalities represent claims that have been accepted by the Workers' Compensation Board (WCB) – Alberta for compensation. They are counted in the year they are accepted.

An 82-year-old coal miner, who was exposed to coal dust in 1941, died from pneumoconiosis (coal miner's lung).

A 53-year-old truck driver suffered a fatal heart attack when his vehicle left the road and struck a guardrail.

A 52-year-old carpenter, who worked as a framer on residential homes, developed skin cancer as a result of excessive sun exposure on the job.

A 49-year-old sheet-metal mechanic, who was exposed to stainless steel welding fumes from 1972 to 1990, developed lung cancer.

A 74-year-old machine operator, who was exposed to silica in 1968, when he worked at an iron foundry in air polluted with dust and other matter.

The following fatalities resulted from exposure to asbestos.

An 83-year-old insulator sprayer, who was exposed for many years to the asbestos in insulation.

A 78-year-old civil engineer, who was exposed from 1947 to 1971 to several different types of asbestos, including asbestos fireproofing and insulation.

A 76-year-old electrician, who was exposed to asbestos and to cleaning solvents.

A 75-year-old store clerk, who was exposed to asbestos that he sold in a hardware store from 1948 to 1951.

A 71-year-old carpenter, who was exposed to asbestos, as well as other chemicals and welding smoke.

A 68-year-old accountant, who was exposed to asbestos in building materials and ceiling tiles from 1965 to 1980.

A 66-year-old truck driver and carpenter's helper, who was exposed to asbestos when he adjusted trucks' hydraulic brakes and replaced their brake pads. Asbestos was commonly used in brake pads until it was banned in the mid-'70s.

A 66-year-old bricklayer, who was exposed to asbestos for four years in the 1950s, when he converted furnaces from coal to gas in industrial and apartment buildings.

A 63-year-old plumber/gasfitter, who was exposed to asbestos from 1972 to 1990.

A 54-year-old sandblaster and painter, who was exposed to asbestos from 1969 to 1992, when he applied an asbestos-based grout compound to the inside of oil tanks.

ISSN 0705-6052 © 2002

HUMAN RESOURCES
AND EMPLOYMENT
9th Floor, 10808-99 Avenue
Edmonton, Alberta
T5K 0G5

Get the Gear

Get the Know-How

Get Real

**Where's the danger?
What can you do about it?**

**Get hold of the
X-Treme Safety booklet
to find out.**

***X-Treme Safety* is free. For your copy, call Workplace Health and Safety at 1-866-415-8690 or visit www.whs.gov.ab.ca**

HUMAN RESOURCES AND EMPLOYMENT | the people & workplace department